

Please type a plus sign (+) inside this box → +

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of 4

Complete If Known

Application Number	
Filing Date	HEREWITH
First Named Inventor	
Group Art Unit	
Examiner Name	
Attorney Docket Number	009103-009740US

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
MM	0001	3,638,640		Shaw	02/01/1972	
MM	0002	3,847,483		Shaw et al.	11/12/1974	
MM	0003	4,114,604		Shaw et al.	09/19/1978	
MM	0004	4,223,680		Jobsis	09/23/1980	
MM	0005	4,623,248		Sperinde	11/18/1986	
MM	0006	4,700,708		New, Jr. et al.	10/20/1987	
MM	0007	4,714,341		Hamaguri et al.	12/22/1987	
MM	0008	4,859,057		Taylor et al.	08/22/1989	
MM	0009	4,908,762	A	Suzuki et al.	03/1990	
MM	0010	4,938,218		Goodman et al.	07/03/1990	
MM	0011	4,975,581		Robinson et al.	12/04/1990	
MM	0012	5,109,849		Goodman et al.	05/05/1992	
MM	0013	5,188,108		Secker	02/23/1993	
MM	0014	5,247,932		Chung et al.	09/28/1993	
MM	0015	5,299,570		Hatschek	04/05/1994	
MM	0016	5,355,880		Thomas et al.	10/18/1994	
MM	0017	5,385,143		Aoyagi	01/31/1995	
MM	0018	5,413,100		Barthelemy et al.	05/09/1995	
MM	0019	5,419,321		Evans	05/30/1995	
MM	0020	5,421,329		Casciani et al.	06/06/1995	
MM	0021	5,424,545	A	Block et al.	06/1995	
MM	0022	5,482,036		Diab et al.	01/09/1996	
MM	0023	5,494,032		Robinson et al.	02/27/1996	
MM	0024	5,497,769		Gratton et al.	03/12/1996	
MM	0025	5,772,589		Bemreuter	08/30/1998	
MM	0026	5,782,237		Casciani et al.	07/21/1998	
MM	0027	5,782,756		Mannheimer	07/21/1998	
MM	0028	6,272,363		Casciani et al.	08/07/2001	
MM	0029	6,298,253	B1	Buschmann	10/2001	

Examiner
Signature



Date
Considered

8/27/2004

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

60068847 v1

Please type a plus sign (+) inside this box →

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0851-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2

of

4

Complete If Known

Application Number	
Filing Date	HEREWITH
First Named Inventor	
Group Art Unit	
Examiner Name	

Attorney Docket Number 009103-009740US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴			
JK	0030	WO	92/21283	A	Somanetics Corp.	10/12/92
JK	0031	EP	0 522 674	A2	Robinson et al.	13/01/93
JK	0032	UK	1 595 208			12/08/81
JK	0033	UK	1 595 207			12/08/81

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS						
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				
JK	0034	"Physio-optical considerations in the design of fetal pulse oximetry sensors", P.D. MANNHEIMER ET AL., European Journal of Obstetrics & Gynecology and Reproductive Biology 72 Suppl. 1 (1997) S9-S19.				
JK	0035	"Wavelength Selection for Low-Saturation Pulse Oximetry", PAUL D. MANNHEIMER ET AL., IEEE Transaction on Biomedical Engineering, Vol. 44, No. 3, March 1997.				
JK	0036	"Noninvasive Optical Monitoring", ROSS FLEWELLING, The Biomedical Engineering Handbook, CRC Press 1995.				
JK	0037	"Continuous, Non-Invasive Measurements of Arterial Blood Oxygen Levels", EDWIN B. MERRICK ET AL., Hewlett-Packard Journal, October 1976.				
JK	0038	"Noninvasive, Infrared Monitoring of Cerebral and Myocardial Oxygen Sufficiency and Circulatory Parameters", FRANK F. JOBSIS, Science - 23 December 1977.				
JK	0039	"Spectral transmittance and contrast in breast diaphanography", SIMA ERTEFAI ET AL., Med. Phys. 12 (4), Jul/Aug 1985, 1985 Am. Assoc. Phys. Med.				
JK	0040	"Optical properties of human dermis in vitro and in vivo", R. GRAAFF ET AL., 1 February 1993 / Vol. 32, No. 4 / Applied Optics.				
JK	0041	"Mie and Rayleigh modeling of visible-light scattering in neonatal skin", IYAD S. SAIDI ET AL., Applied Optics / Vol. 34, No. 31 / 1 November 1995.				
JK	0042	"Diffuse reflectance from a finite blood medium: applications to the modeling of fiber optic catheters", LARRY REYNOLDS ET AL., September 1976 / Vol. 15, No. 9 / Applied Optics.				
JK	0043	"Pulse oximetry: Historical review and Ohmeda functional analysis", MICHAEL W. WUKITSCH, International Journal of Clinical Monitoring and Computing 4: 161-166, 1987.				
JK	0044	"Effect of Anemia on Pulse Oximeter Accuracy at Low Saturation", JOHN W. EVERINGHAUS, MD ET AL., Journal of Clinical Monitoring Vol. 6, No. 2, April 1990.				
JK	0045	"Design and Evaluation of a New Reflectance Pulse Oximeter Sensor", Y. MENDELSON, PH.D. ET AL., Medical Instrumentation Vol. 22, No. 4, August 1988.				
JK	0046	"Errors in 14 Pulse Oximeters During Profound Hypoxia", JOHN W. SEVERINGHAUS, MD ET AL., Journal of Clinical Monitoring, Vol. 5, No. 2, April 1989.				

Examiner Signature

Matthew Klem

Date Considered

8/27/2004

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

60068847 v1

Please type a plus sign (+) inside this box → +

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1448B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

3

of 4

Complete If Known

Application Number	
Filing Date	HEREWITH
First Named Inventor	
Group Art Unit	
Examiner Name	

Attorney Docket Number 009103-009740US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office ³	Number ⁴	Kind Code ⁵ (if known)		
JK	0047			"Accuracy of Response of Six Pulse Oximeters to Profound Hypoxia", JOHN W. SEVERINGHAUS MD ET AL., Anesthesiology, Vol. 67, No. 4, October 1987.		
JK	0048			"The influence of changes in blood flow on the accuracy of pulse oximetry in humans", M. VEGFORS ET AL., Acta Anaesthesiol Scand. 1992; 36: 346-349.		
JK	0049			"Evaluation of Light-Emitting Diodes for Whole Blood Oximetry", A.P. SHEPHERD ET AL., IEEE Transactions on Biomedical Engineering, Vol. BME-31, No. 11, November 1984.		
JK	0050			"Noninvasive Methods for Estimating In Vivo Oxygenation", DAVID A. BENARON, MD ET AL., Clinical Pediatrics, May 1992.		
JK	0051			"In Vivo Reflectance of Blood and Tissue as a Function of Light Wavelength", WEIJIA CUI ET AL., IEEE Transactions on Biomedical Engineering, Vol. 37, No. 6, June 1990.		
JK	0052			"A Non-Invasive Reflectance Oximeter as a Useful Monitor in ICU", Y. SHIMADA ET AL., Anesthesiology, V. 71, No. 3A, September 1989.		
JK	0053			"Experimental and Clinical Evaluations of a Noninvasive Reflectance Pulse Oximeter Sensor", SETSUO TAKATANI ET AL., Journal of Clinical Monitoring, Vol. 8, No. 4, October 1992.		
JK	0054			"Fetal monitoring by pulse oximetry and CTG", HELEN McNAMARA ET AL., McNamara & Johnson, Fetal pulse oximetry, J. Perinat. Med. 21 (1993).		
JK	0055			"Noninvasive measurement of regional cerebrovascular oxygen saturation in humans using optical spectroscopy", PATRICK W. MCCORMICK ET AL., SPIE Vol. 1431 Time-Resolved Spectroscopy and Imaging of Tissues (1991).		
JK	0056			"Statistic of penetration depth of photons re-emitted from irradiated tissue", GEORGE H. WEISS ET AL., Journal of Modern Optics, 1989, Vol. 36, No. 3, 349-359.		
JK	0057			"Intrapartum fetal pulse oximetry: Fetal oxygen saturation trends during labor and relation to delivery outcome", GARY A. DILDY, MD ET AL., September 1994, Am. J. Obstet. Gynecol.		
JK	0058			"Fetal Oxygenation in Chronic Maternal Hypoxia; What's Critical?", BEREND OESEBURG ET AL., Oxygen Transport to Tissue XIV, Edited by W. Erdmann et al., Plenum Press, New York 1992.		
JK	0059			"Electrocortical activity, electroocular activity, and breathing movements in fetal sheep with prolonged and graded hypoxemia", BRYAN S. RICHARDSON MD ET AL., August 1992, Am J Obstet Gynecol.		
JK	0060			"Model for photon migration in turbid biological media", R.F. BONNER ET AL., 1987 Optical Society of America.		
JK	0061			"Simple Photon Diffusion Analysis of the Effects of Multiple Scattering on Pulse Oximetry", JOSEPH M. SCHMITT, IEEE Transactions on Biomedical Engineering, Vol. 38, No. 12, December 1991.		
JK	0062			"Absorption Spectra of Human Fetal and Adult Oxyhemoglobin, De-Oxyhemoglobin, Carboxyhemoglobin, and Methemoglobin", W.G. ZIJLSTRA ET AL., Clinical Chemistry, Vol. 37, No. 9, 1991.		
JK	0063			"Reflectance Pulse Oximetry (RPOX): Two Sensors Compared in Piglets", ROEL NIILAND ET AL., Am J Obstet Gynecol, January 1995, vol. 172, No. 1, Part 2.		

Examiner
Signature



Date
Considered

8/27/2004

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

60068847 v1

Please type a plus sign (+) inside this box →

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

4

of 4

Complete if Known

Application Number	
Filing Date	HEREWITH
First Named Inventor	
Group Art Unit	
Examiner Name	

Attorney Docket Number 009103-009740US

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
NY	0064				"Time resolved reflectance and transmittance for the non-invasive measurement of tissue optical properties", MICHAEL S. PATTERSON ET AL., Applied Optics, 15 June 1989 / Vol. 28, No. 12.			
AK	0065				"Tissue Optics Applied to Reflectance Pulse Oximetry", REINDERT GRAAFF, 1993.			
MT	0066				"Reflectance Pulse Oximetry in Fetal Lambs", A. CARIN DASSEL ET AL., 11264 Pediatric Research, 31 (1992) March, No. 3, Baltimore, U.S., Vol. 31, No. 3, 1992.			

Examiner
Signature

Date
Considered

8/27/2004

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.
60068847 v1